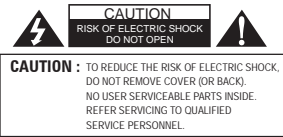


HD Camera Series

Before attempting to connect or operate this product, Please read these instructions carefully and save this manual for future use. The design and specifications are subject to be changed without notice.

P/N:38801K405



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

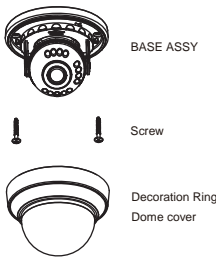
Regulatory Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions :
(1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and use in accordance with the instructions, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his own expense.
WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION : To prevent electric shock and risk of fire hazards:
• Power Supply : This camera must always be operated a DC 12V
• Handling of the unit : Be careful not to spill water or other liquids on the unit.
• Operating and storage location : Avoid viewing a very bright object (such as light fittings) during an extended period.
Avoid operating or storing the unit in the following locations.
- Extremely hot or cold places (operating temperature -10 °C ~ 50 °C, however, we recommend that the unit be used within a temperature range of 0 °C ~ 45 °C)
- Damp or dust place , places exposed to rain and places subject to strong vibration
• Close to generators of powerful electromagnetic radiation such as radio or TV transmitters.
• Handling of the Unit
- Remove dust or dirt on the surface of the CMOS sensor with a blower.
- Avoid the use of volatile solvents such as thinners, alcohol, benzene and insecticides.
They may damage the surface finish and/or impair the operation of the camera.

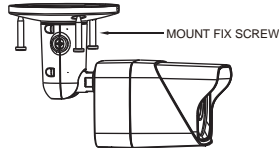
Installation

- Dome Camera



- Fix the base housing with the supplied 2pcs of screws on the ceiling or wall.
- Adjust the camera direction by turning the gimbal bracket.
- Firmly fix the decoration ring into the base.

- Bullet Camera



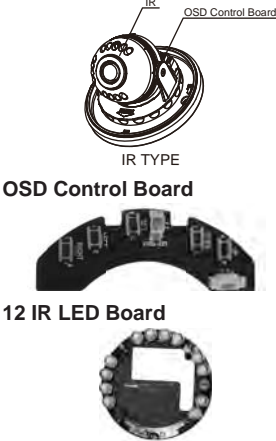
- Fix the mount bracket with supplied 3pcs of mount fix screws on the ceiling or wall.
- Adjust the camera direction.
- Firmly fix the screw in the bracket after set the camera direction.

Feature

- 1/2.8" Sony "Exmor" CMOS Sensor
- Full HD Resolution: 1080p 30fps/ 720p 60fps
- 12 IR LEDs (Dome), 24 IR LEDs (Bullet)
- 3.6mm Fixed Lens
- WDR (Wide Dynamic Range)
- DNR (Digital Noise Reduction: 2D + 3D)
- Privacy Mask Function
- Intelligent Motion Detection
- Defog Function: Defogging foggy video image
- Dome size :75Ø (Dome)
- Plastic housing for indoor application (Dome)
- IP 66 for outdoor application (Bullet)
- LANGUAGE : Select language.
 - English / Simplified Chinese / Traditional Chinese / Japanese

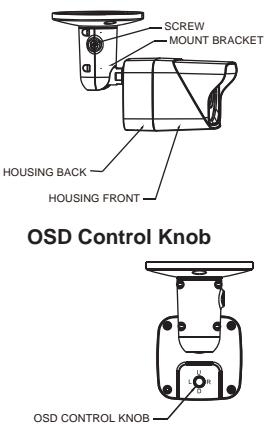
- Dome Camera

Part Names



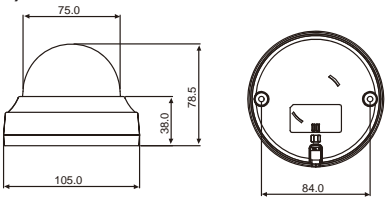
- Bullet Camera

Part Names

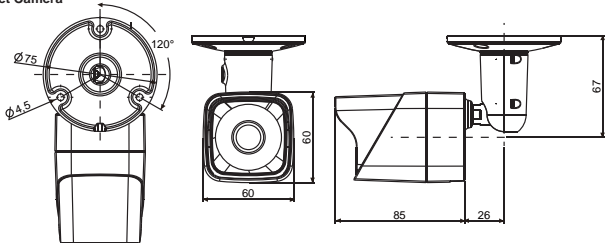


Dimensions(mm)

- Dome Camera



- Bullet Camera



Specification

Specifications are subject to be changed without notice.

Model	
Image Sensor	1/2.8" SONY CMOS Sensor
Total Pixels	2,000(H) x 1,121(V), 2.24M Pixels
Active pixels	1 1,936(H) x 1,105(V), 2.12M Pixels
Scanning system	Progressive
Resolution	Digital : 1920x1080p(1080p/30fps) , 1280x720p(720p/60fps) Analog : 700TVL
Min. illumination	Color : 1.0 lux , BW : 0.5lux Color DSS : 0.002 lux , BW DSS : 0.001 lux
Video Output	HD : HD-SDI Analog : NTSC, PAL(without WDR)
S/N Ratio	more than 50dB (AGC off)
Shutter speed	Auto / Manual (1/30(1/25) ~ 1/60000)
DSS	Off / x2 / x3 / x4
AGC	Off / On
Flickerless	Off / On
WDR/BLC	Off / WDR / BLC
DAY&NIGHT	Auto / Day / Night / Ext-in
WHITE BAL	Auto / One Push / Manual / Indoor / Outdoor

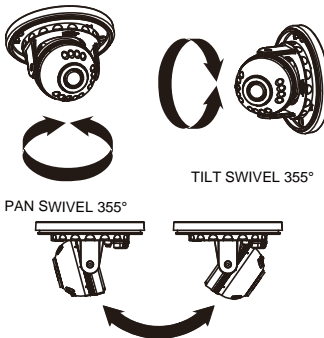
3-AXIS

- Dome Camera

Set Camera DIRECTION (3-axis movement)

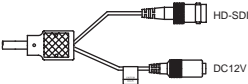
Ceiling Type

Wall Type



CAMERA 25°~ 145°(recommended angle 45°~ 145°)

Cable Connection



Accessories And Others

- Dome Camera



- Bullet Camera



Specifications are subject to be changed without notice.

Model	
HLC	Off / On
DNR	Auto / Off / Low / Middle / High
ACE	Low / Middle / High
Defog	Off / On(Auto / Manual)
GAMMA	0.45 / 0.50 / 0.55 / 0.60 / 0.65
E.Zoom	Off / Max x2 ~ x32
PRIVACY	Off / On (24 points)
MOTION	Off / On (3 points)
Defect	One Push
System	NTSC / PAL
HD Format	1080P / 720P
Comm	Baud Rate : 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200 Protocol : VISCA / Pelco-D / Pelco- P / Update
Power Source	DC12V±10%
Power Consumption	120mA(IR ON : 300mA)
Power Input	Connector
Video Output(HD-SDI)	MMCX Connector
Operating Temperature	-10 °C ~ +50 °C (Humidity : 0%RH ~ 80%RH)
Storage Temperature	-20 °C ~ +60 °C (Humidity : 0%RH ~ 90%RH)

Camera menu is subject to be changed without prior notice to upgrade and quality increase and we may use slip sheet for the change.
Please check the camera version and the slip sheet if the camera menu and this manual menu is not matched.

MAIN MENU

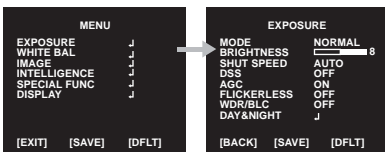


Functions can be setup using "Menu Key Command" of Visca protocol.
The menu consists of the "Main Menu" and "Sub Menu".
The main menu is displayed where 6 camera functions can be selected.
To the push of each main menu selection, the sub-menu is displayed

If you want save the menu, select [SAVE].
If you want not save the menu, select [EXIT]
(After select, Power off -> on)
If you want default the menu, select [DFLT]

1

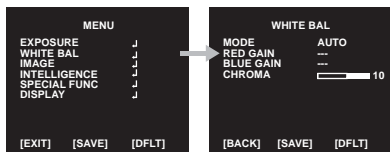
EXPOSURE



- ◆ MODE : Select LENS type
 - ▶ NORMAL, DEBLUR
- ◆ BRIGHTNESS : Adjust brightness level
 - ▶ 0(dark) ~ 20(bright) steps
- ◆ SHUT SPEED : Can be set in AUTO or MANUAL
 - ▶ AUTO / x2, x3, x4, 1/30(25), 1/60(50), 1/120(100), 1/240, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/16000, 1/30000, 1/60000 sec
- ◆ DSS : Select maximum DSS(Digital Slow Shutter)
 - ▶ OFF / x2, x3, x4
- ◆ FLICKERLESS : Select Flickerless mode
 - ▶ OFF / ON (remove screen flicker)
- ◆ AGC : Select Auto Gain Control
 - ▶ OFF / ON

2

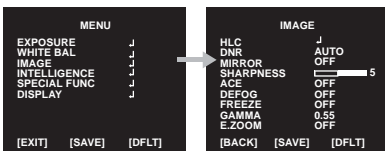
WHITE BALANCE



- ◆ AWB : Select WHITE BALANCE mode
 - ▶ AUTO / ONE PUSH / MANUAL / INDOOR / OUTDOOR
 - ▷ AUTO : Automatically adjusts color according to the available lighting.
 - ▷ ONE PUSH : It is a fixed white balance mode that may be automatically readjusted only by pressing ONE PUSH
 - ▷ MANUAL: Color can be corrected when the user increases or decreases "RED GAIN" or "BLUE GAIN".
 - ▷ INDOOR : Set color temperature to be Indoor light (3700°K)
 - ▷ OUTDOOR : Set color temperature to be Outdoor light (5100°K)
- ◆ RED GAIN : Adjust R gain value
 - ▶ 0 ~ 20 steps
- ◆ BLUE GAIN : Adjust B gain value
 - ▶ 0 ~ 20 steps
- ◆ CHROMA : Adjust CHROMA gain value
 - ▶ 0 ~ 20 steps

4

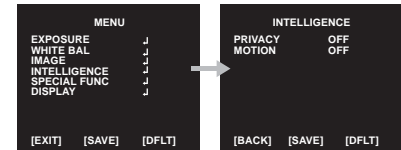
IMAGE



- ◆ HLC : Select High Light Compensation.
When extremely bright light is projected to the camera masking is used on the portion to prevent partial saturation on the monitor.
 - ▷ MODE : OFF / ON / NIGHT
 - ▷ LEVEL : 0 ~ 20 steps
 - ▷ COLOR : 0 ~ 13 steps
- ◆ DNR : Select Digital Noise Reduction
 - ▷ AUTO / OFF / LOW / MIDDLE / HIGH
- ◆ MIRROR : Select a flip mode
 - ▶ OFF / H / V / H&V
 - ▷ H : You can flip the picture horizontally on the screen
 - ▷ V : You can flip the picture vertically on the screen
 - ▷ H&V : You can flip the picture horizontally & vertically on the screen

5

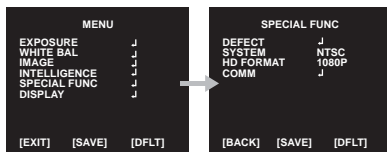
INTELLIGENCE



- ◆ PRIVACY : Hide an area you want to hide on the screen
 - ▶ OFF / ON
 - ▷ MASK# : Select mask area number (1 ~ 24)
 - ▷ MODE : Mask enable or disable (OFF / ON)
 - ▷ POSITION : Adjust the mask position
 - ▷ SIZE : Adjust the mask size
 - ▷ COLOR : Select mask color (0 ~ 13)
 - ▷ TRANS : Select mask transparency level (0 ~ 4)
- ◆ MOTION : When there is movement of the subject in the screen, there will be an motion detection
 - ▶ OFF / ON
 - ▷ AREA# : Setting 3 areas(1~3) of motion detection
 - ▷ MODE : OFF / ON (Limit and define areas of motion detection)
 - ▷ SENSITIVITY : Adjust sensitivity of MD (0 ~ 20 steps) More sensitive to setting to low step with sensitivity
 - ▷ POSITION : Adjust the Area position
 - ▷ SIZE : Adjust the Area size
 - ▷ INTERVAL TIME : Select the alarm interval time (0 ~ 255sec)
 - ▷ DWELL TIME : Select the duration time about changing MD mode (0 ~ 255sec)

7

SPECIAL FUNC



- ◆ DEFECT : Compensates for bad pixels that may occur. Occurs when the whole screen is in full black or if there is bad pixelation and it changes the THRS values until the screen is fixed.
- ◆ SYSTEM : Select NTSC(30fps) or PAL(25fps). (NTSC / PAL)
- ◆ HD FORMAT : Select Digital output 1080P or 720P. (1080P / 720P)
- ◆ COMM : Set up the camera ID, baud rate, protocol
 - ▷ ID : Select the camera ID
 - ▶ 1 ~ 255
 - ▷ BAUD RATE : Select serial communication speed
 - ▶ 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200bps
 - ▷ PROTOCOL : Select operating protocol
 - ▶ VISCA / PELCO-D / PELCO-P / UPDATE

8

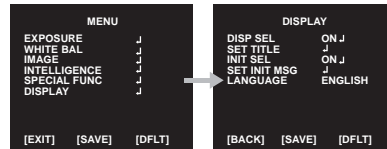
- ◆ WDR/BLC : Select WDR(Wide Dynamic Range) or BLC(Back Light Compensation)
 - ▶ WDR:
 - ▷ LEVEL : Adjust WDR level.
 - ▶ LOW, MID-LOW, MIDDLE, MID-HIGH, HIGH
 - ※ WDR doesn't work in Shutter Manual Mode.
 - ▶ BLC:
 - ▷ POSITION : Adjust the window position
 - ▷ SIZE : Adjust the window size
 - ※ Can't use WDR and BLC at the same time.
(When WDR On, BLC is Off. And when BLC is On, WDR is Off)
- ◆ DAY&NIGHT : Select Day&Night
 - ▷ MODE : AUTO / EXT-IN / DAY / NIGHT
 - ▶ AUTO: (When using D&N and COLOR model)
 - ▷ POLARITY : ACTIVE LOW / HIGH
 - ▶ EXT-IN: (When using IR-CDS model)
 - ▷ POLARITY : ACTIVE LOW / HIGH
 - ※ To turn on the IR, set the mode to ACTIVE LOW.
 - ▷ DELAY : 0 ~ 255 sec
 - ▷ THRS : 0 ~ 28
Day→Night switching level in Auto Mode.
Switching in lower lux with higher threshold level.
 - ▷ GAP : LOW, MID-LOW, MIDDLE, MID-HIGH, HIGH
Margin between Day →Night switching level and Night →Day switching level.
 - ▷ ANTI-SAT : LED saturation improves. (0~20)
 - ▷ BURST : OFF / ON

3

- ◆ SHARPNESS : Adjust sharpness level
 - ▶ 0 ~ 10 steps
- ◆ ACE : Select Digital WDR (Wide Dynamic Range)
 - ▶ OFF / LOW / MIDDLE / HIGH
- ◆ DEFOG : Carry out defog function
 - ▶ OFF / ON
 - ▷ MODE : AUTO / MANUAL
 - ▷ LEVEL : LOW / MIDDLE / HIGH
- ※ Can't use DEFOG and ACE at the same time
(When ACE On, DEFOG is Off. And when DEFOG is On, ACE is Off)
- ◆ Freeze : Select real or still mode
 - ▶ OFF / ON
- ◆ GAMMA : Select GAMMA
 - ▶ 0.45 / 0.50 / 0.55 / 0.60 / 0.65
- ◆ E.ZOOM
 - ▶ OFF / ON
 - ▷ LIMIT : Max x2 ~ x19, x21, x23, x25, x28, x32
 - ▷ POSITION : Select maximum digital zoom magnification.
- ※ Can't use Digital Zoom when the motion detection is turned on.

6

DISPLAY



- ◆ DISP SEL : Select display item.
 - ▶ OFF / ON
 - ▷ ID : OFF / ON
 - ▷ TITLE : OFF / ON
 - ▷ ZOOM RATIO : OFF / ON
 - ▷ SYSTEM MSG : OFF / ON (MD Alarm and Wait message)
- ◆ SET TITLE : Select camera title menu (Text edit)
- ◆ INIT SEL : Select display initial message.
 - ▶ OFF / ON
 - ▷ ID : OFF / ON
 - ▷ BAUDRATE : OFF / ON
 - ▷ PROTOCOL : OFF / ON
 - ▷ VERSION : OFF / ON
 - ▷ INIT MSG : OFF / ON
- ◆ SET INIT MSG : modify initial message. (Text edit)

9